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NEW ORGANO-METALLIC CATALYSTS FOR THE MANUFACTURE OF POLYMERS

TECHNOLOGY OFFER

Code

QUI_UAH_01

Application areas

- Industrial Manufacture, Material and Transport technologies
- Other Industrial Technologies
- Agrofood Industry



Type of collaboration

- Joint venture agreement
- Manufacturing Agreement

Main researches

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ABSTRACT

Searching for catalytic processes directed towards the synthesis of new polymers and functionalized organic products (esters, epoxides or alkylsilane), is a topic of great interest followed by the companies of this sector. The obtaining of catalysts that can carry out these reactions more efficiently and selectively, provides a source of profits for these companies since the consumption of material and energy resources can be reduced drastically. Besides, the reduction or elimination of non-biocompatible metal charge of these polymers is essential to industrial scale, being controlled maximum permissible levels for those polymers used in food and agriculture fundamentally.

The new technology presented is develop with new catalysts based on coordination complexes and organo-metallic compounds of metals from the first groups of transition, alkali or alkaline earth metal and aluminum. Its special features allow them to be used in a wide range of sectors, including food industry, construction and petrochemicals.

ADVANTAGES AND INNOVATIONS

Due to its high efficiency, catalyst has to be used in small quantities allowing reaction products almost clean. This allows obtaining high quality polymers, also highly competitive in the market, because of the metal levels obtained, that are below than those required by the directives in the field of food and agriculture.

- New organo-metallic catalysts are highly selective
- They are very effective in the polymerization process
- The polymers obtained contain less amount of waste metal
- Biocompatible metal complexes for the synthesis of biopolymers